

MIAMI BEACH

Beach & Dune Workshop



Wednesday, June 19, 2013

OPENING REMARKS

**City of Miami Beach Public Works Department,
Environmental Division**

Betsy Wheaton, Environmental Resources Manager



Photo by Ariel Moger

DISCUSSION OF HUMAN IMPACTS ON SEA TURTLE NESTING

**Miami-Dade County Parks, Recreation and Open Spaces Department,
Sea Turtle Nesting and Relocation Program**

Bill Ahern & Selina Mills, Sea Turtle Rangers



Photo by Ariel Moger

Sea Turtle Species Found in Florida



Threatened



Endangered



Endangered



THE MIAMI BEACH DUNE AND BEACH ECOSYSTEM

Coastal Management and Consulting

Rob Barron, Professional Dune Ecologist



Photo by Ariel Moger

The Miami Beach Beach and Dune System



History of the Miami Beach Dune & Beach Ecosystem

- 1920s: City of Miami Beach
- 1975-1980: Miami-Dade County Beach Erosion Control and Hurricane Surge Protection project
- Mid-1980s: FDEP creation of vegetated dune



Importance of the Miami Beach Dune and Beach Ecosystem

- Stems and roots trap, accumulate, and stabilize sands
- Acts as sand reservoir
- Minimizes erosion
- Blocks storm surge protecting upland properties
- Acts as an important habitat for both animals and plants





Photo by Rob Barron

CITY OF MIAMI BEACH DUNE MANAGEMENT STRATEGY

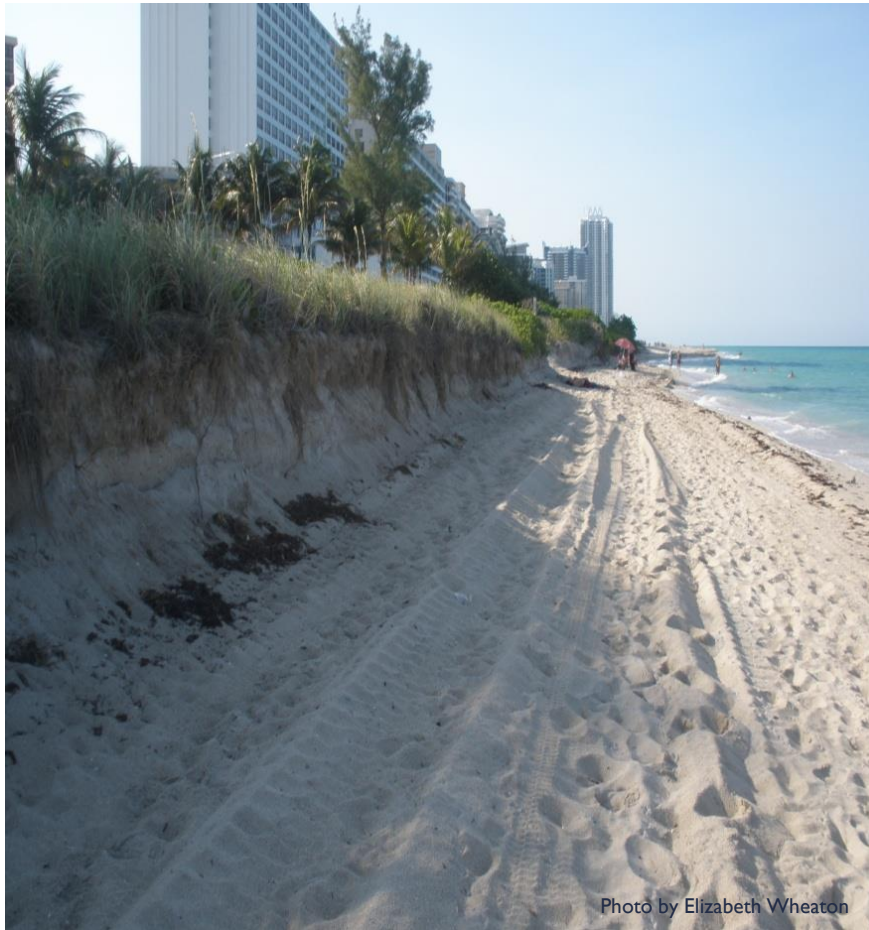
**City of Miami Beach Public Works Department,
Environmental Division**

Betsy Wheaton, Environmental Resources Manager
Margarita Wells, Environmental Specialist



Photo by Ariel Moger

Beach Renourishment



- Process for replacing eroded sand with outside sand sources
- 2011 Beach Erosion Control & Hurricane Protection Project
- \$1 in beach renourishment = approx. \$700 return in foreign exchange

City of Miami Beach Dune Management Strategy

- Removal of non-native invasive vegetation (i.e. *Scaevola taccada*)
 - Maintenance Contract
 - Volunteer Events
 - Private Projects
- Planting of native vegetation (i.e. *Jacquemontia reclinata*)



Photo by Margarita Wells

Above: *Scaevola taccada*; Below: *Jacquemontia reclinata*



Photo by Mark A. Garland @ USDA-NRCS PLANTS Database

Preserving the Structural Integrity of the Dune



- Structural dune protection:
 - Rope and post
 - Sand fencing
- Regulatory protection:
 - FDEP
 - Sea oats (*Uniola paniculata*)
 - Sea grape (*Coccoloba uvifera*)
 - City of Miami Beach

VOLUNTEER DUNE RESTORATION & BEACH PROTECTION PROGRAMS

Sam Wright, Fairchild Tropical Botanic Gardens
Surfrider Foundation, Miami Chapter Representative
Luiz Rodrigues, ECOMB



Thank you to all of our presenters and to those who attended our workshop!



Photo by Sam Wright

Father and son leaving the dune after volunteering in a Surfrider Foundation dune restoration event.

Presenters:

- Bill Ahern & Selina Mills, Sea Turtle Experts
- Rob Baron, Dune Ecologist
- Elizabeth Wheaton, Environmental Resources Manager for the City of Miami Beach
- Margarita Wells, Environmental Specialist
- Sam Wright, Fairchild Tropical Gardens



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